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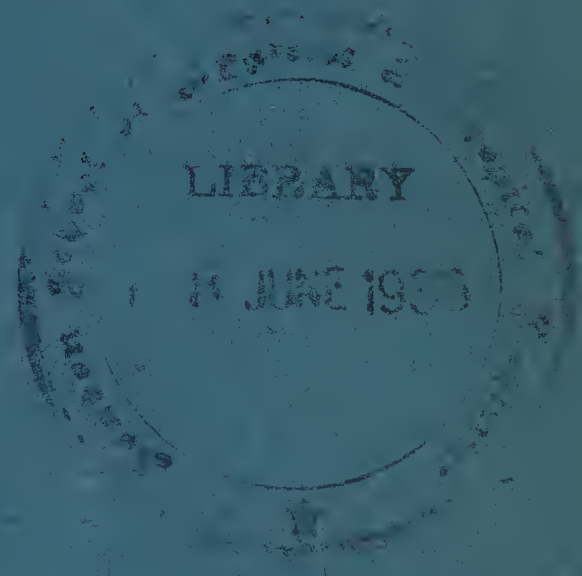
STATE OF BRUNEI

Annual Report on the Medical Department for the year 1935

BY

W. G. EVANS

Medical Officer



SINGAPORE :

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ANNUAL REPORT ON THE MEDICAL DEPARTMENT, BRUNEI, FOR THE YEAR 1935

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I.—GENERAL

1. Brunei is a State on the North Coast of Borneo about the size of the County of Devon (some 2,500 square miles). There is a coast line of about 100 miles and a population of over 30,000 (see Appendix V and map in back cover).

2. The Sultan is the Ruler of the State. By an agreement made in 1906 a British Resident was accepted whose advice must be asked and acted upon on all questions other than those touching Mohammedan religion. The administration of Government is in the hands of the British Resident who is invariably an officer of the Malayan Civil Service.

3. There are two main centres of population, Brunei Town (Darul-Salam) and Kuala Belait, transport between them being by car on road and beach and taking in fine weather about three hours, in bad weather becoming at times impossible (see map in back cover).

Access to other parts of the State is mainly by motor launch but large areas are undeveloped jungle and inaccessible except by perahu (native dug-out).

II.—ADMINISTRATION OF THE MEDICAL DEPARTMENT

4. The whole Medical and Health administration of the State is in the hands of one officer who is invariably an officer of the Malayan Medical Service seconded to Brunei. The writer held this post throughout the year.

5. The full establishment of the Department in 1935 is given at Appendix I. In addition to this, a Sanitary Inspector holding the Diploma of the Royal Sanitary Institute is on the establishment of the Assistant Resident at Kuala Belait.

6. Revenue collected by the Department in 1935 was \$1,627.16 and expenditure was \$41,808.84 compared with figures of \$1,517.94 and \$37,700.02 respectively for 1934. The expenditure was $7\frac{3}{4}\%$ of the total State Expenditure exclusive of extraordinary expenditure on debt redemption. Details are given in Appendix II.

III.—MATERNITY AND CHILD WELFARE

7. There were six female officers engaged in this work during the year *viz.* one fully qualified nurse, one assistant nurse, one locally trained midwife, two female attendants on the establishment and one on daily wages. The large increase in the amount of work done, the appreciation of the service by the local female population, and the large decrease in infantile mortality compared with 1934, are more than gratifying. Figures are given in Appendix III.

8. Five hundred and fourteen maternity cases were attended in their own homes with five deaths and three cases of puerperal fever. Five cases were delivered in hospital with no complications. In addition to these maternity cases, 3,186 other cases were seen in the Welfare Clinic. The figures for 1934 were 436 deliveries and 1,624 other cases. The average weight of babies born under the care of the department (521 cases) in 1935 was 7½ lbs. In 1934 it was 6½ lbs. (436 cases).

9. In view of reports from other parts of the East it deserves mention that in the writer's opinion native methods of midwifery as practised by bidans (native midwives) in Brunei are not very bad. Among other harmful practices completely forbidden by Brunei custom are vaginal examinations before and during parturition and pulling on the cord to produce the placenta. Apparatus in the hands of the bidans is in general quite clean and is thoroughly washed before each case. Native knowledge of the mechanism of labour and the course of abnormal presentations is comparatively accurate; one very unusual transverse presentation was correctly diagnosed (but given up as hopeless) by a bidan before the Government nurse was called in. The patient's life was saved.

10. The great failing of native methods is in the after care of the new born babe. It is not uncommon for a new baby awaiting mother's milk to be forcibly fed on balls of a paste made from rice and bananas. Betel nut and other irritants are almost invariably applied to the baby's abdomen in a compress and it is very rare to find an adult native not bearing scars of such application in his infancy. However, the Brunei mother is fairly willing to learn, as the improvement in infantile mortality shows. There is good reason to suppose that the figures for the Brunei area at least are now fairly correct.

IV.—PUBLIC HEALTH

(a) GENERAL

11. The scattered nature of the population and the inaccessibility of large parts of the State render Public Health measures practically impossible except in the main centres of population. The three areas of Brunei, Tutong and Kuala Belait are controlled by Sanitary Boards which are responsible for all matters of housing, sanitation, etc. All houses in Sanitary Board areas are liable to inspection by officers of the Board. In Brunei Town, but outside the Sanitary Board area the majority of the Malay population has lived from time immemorial in huts raised on piles built on mud flats in the river. These flats are exposed at low tide but flooded at high tides, the tides effectively dealing with sanitation. There is overcrowding in this river village, due as a general rule not to lack of space or money for building but to the habit of the Malay to have his family and relations with him, a habit which will not easily be relinquished.

12. There are two water supplies in the town of Brunei, one of which incorporates a sand filter. In addition a number of small hill streams have been harnessed and led out in pipes overhanging the river so that the river dwellers can fill receptacles with pure water for domestic use.

All the catchment areas are uninhabited and there is no reason to suspect the purity of the supplies.

13. In the main centres of population bucket latrines are used and the sewage is dumped in a convenient tidal river. A few houses in Brunei and Kuala Belait possess water borne systems. In the river village and in other areas the latrine is built on piles over the tide which effectively disposes of the deposit.

14. Ascariasis (round-worm) is so common as to be rather the rule amongst school children.

Ankylostomiasis (hook-worm) is much less common. All school children are examined annually and infected children are treated. Figures are given at Appendix IV.

15. There was no major epidemic of infectious disease during the year. Beri-beri continues to be a problem, particularly in the Brunei river village.

The supply of fresh fish was very much improved during the year but until the river dweller can be educated to eat more fruit and vegetables it is to be feared that Beri-beri will not be eradicated. It is a local custom that parturient women and other ailing persons are fed on nothing but white rice and this practice contributes very largely both to the incidence of Beri-beri and to the high infantile mortality.

16. In February a patient was admitted to the Brunei hospital suspected of Bubonic Plague. Smears from enlarged glands were sent to Singapore for confirmation of the diagnosis, rigorous quarantine measures were instituted and all contacts were examined and kept under constant surveillance. A campaign of rat destruction was instituted. No further cases appeared and the diagnosis was not confirmed. The patient had a prolonged and stormy illness and convalescence and was discharged cured in June. The disease from which he was suffering must remain undiagnosed. The anti-rat campaign resulted in the destruction of 4,555 rats. No plague was found in the rat population.

(b) VITAL STATISTICS

17. The estimated population of the State on December 31st was 33,732. Births totalled 1,475 giving a birth rate of 43.70 per mille. Deaths were 802 giving a crude death rate of 23.78 per mille. The 1934 rates were birth rate 39.61, death rate 37.51. A table of the causes of death is given at Appendix V, but since less than 15% of deaths were certified by medical practitioners, and even a number of these diagnosed from scanty data, the table is highly unreliable.

18. The infantile mortality rate has shown a very marked decrease from 1934. It is to be expected that in a small population fluctuations in the rate will be high but such a large decrease is not without special significance in view of the much increased amount of work done by the child welfare clinic. It may be assumed that

the registrations of births and infantile deaths in the Brunei area at least are now fairly accurate. Figures are as below, further details being given in Appendix V.

	Brunei Area		Whole State	
	1934	1935	1934	1935
Births	585	720	1,306	1,475
Infantile deaths ..	247	152	464	310
Rate per mille ..	422	211	355	210

Attendances at welfare clinic 1934:—1,624; 1935:—3,186.

(c) OPIUM ADDICTION

19. Anti-opium treatment is available free of charge at the three Government hospitals in the State. The method employed is to give the addict sufficient opium in a mixture containing also potassium bromide to overcome the craving, and gradually to reduce the dose. Hypodermic injections of atropine are also used in the first ten days.

The average duration of treatment was 25 days.

20. Thirty-one patients were admitted for treatment during 1935 and only three left hospital before completing a cure, two of whom left for reasons entirely unconnected with the treatment. Five patients relapsed after leaving hospital, the average time before relapse being 3½ months. Three patients were in hospital undergoing a cure at the end of the year.

(d) FOOD ANIMALS

21. All buffaloes, cattle, pigs and goats slaughtered in the Brunei area are inspected before and after death by officers of the department. There are two slaughter-houses in Brunei town, one for pigs and one for other animals. 340 pigs, 243 buffaloes, 29 cattle and 23 goats were slaughtered there during the year. Three pigs were rejected for slaughter on account of disease.

(e) MALARIA

22. Malaria is not bad in the main centres of population where anti-malarial measures are taken. Unfortunately there is still a fair amount of the disease in outlying parts of the State, particularly bad spots being along the Tutong and Barakas roads. All school children are examined annually and spleen rates are given at Appendix IV. The highest rate was at Barakas. The rate amongst school children for the whole State was 9.08%.

23. Seven hundred and thirty-eight blood films were examined during the year with 125 positive as follows:—Benign tertian 66, Subtertian 34, Quartan 19, Mixed 6. Laboratory returns are given at Appendix VI.

24. In January a probationer dresser of this department was sent to Miri for training in mosquito work under the officers of the Sarawak Oilfields Ltd., Medical Staff. On his return at the end of March the investigation of breeding places particularly in and around Brunei town was commenced.

The following Anophelines have been identified in Brunei (in order of frequency) :—

A. kochi, A. barbirostris, A. hyrcanus, A. leucosphyrus, A. separatus, A. umbrosus, and A. aitkeni. Details are given at Appendix VII.

25. Anti-malarial work done during the year consisted chiefly of surface drainage and oiling. Subsoil drains have proved unsatisfactory in most places owing to the shifting sandy nature of the soil. Over four thousand feet of new surface drains were constructed in the Brunei area.

(f) VACCINATIONS

26. With the installation of an electric refrigerator in the Brunei hospital in January it has become possible to keep the vaccine lymph and use it when and as required with the result that successful vaccinations have been facilitated. 546 vaccinations were performed in Brunei with 269 successful results, 32 failed and 245 not seen after vaccination. There were in addition 21 vaccinations at Tutong and 97 at Temburong making a total of 664 for the State. There was no small-pox.

(g) LEPROSY

27. There are only two known lepers (both male Chinese) in the State. Both are in an advanced but quiescent condition. One is able to occupy himself on a plot of land about ten miles from Brunei where he is visited regularly and receives a monthly allowance from Government. The other is more or less helpless and is maintained in isolation at the Brunei hospital.

(h) MENTAL DISORDERS

28. There is no mental hospital in the State. Selected cases are sent to the Singapore Mental Hospital, others are treated in the Brunei Hospital. One case was sent to Singapore during 1935 and there remained six Brunei lunatics in the Singapore Mental Hospital on December 31st. The cost to the Brunei Government of maintaining lunatics in Singapore in 1935 was \$703.20.

(i) YAWS

29. Yaws is fairly common throughout the State, one hundred and fifty-five cases being seen during the year. The dramatic results of its treatment by Western methods do much to bring European medicine into favour with the natives of Brunei.

(j) VENEREAL DISEASES

30. Syphilis is practically non-existent in the State of Brunei, five cases were seen during the year but all had been contracted outside the State.

31. Gonorrhoea is exceedingly common but owing to its extreme mildness in most cases amongst the native population, the incidence is not properly portrayed in the hospital and disease statistics in the appendices.

(k) DYSENTERIES

32. The dysenteries continue to be rare, twenty-four cases of bacillary dysentary and four of amoebic were seen.

V.—HOSPITAL AND DISPENSARIES

33. The Government maintains three hospitals as below.

(a) A well-equipped hospital of about 35 beds at Brunei.

(b) A small hospital of 8 beds at Temburong.

(c) A small hospital of 6 beds at Tutong.

34. The death of the chief travelling dresser in December 1934 necessitated a considerable diminution of the work done by the travelling dispensary during the first half of 1935 but about the middle of the year the whole State with the exception of the British Malayan Petroleum Company's area was again covered by this service. The figures showing the work done are included in the appendices under the headings of the stations from which the dispensaries started on each journey, *i.e.*, Brunei, Tutong or Temburong.

35. Unfortunately there are no radiological facilities whatsoever in the State. It is interesting to note how well one can manage without them. Twelve cases of fractures of bones were treated during the year with a perfect functional result in every case but one and that was a fracture-dislocation of the twelfth thoracic vertebra with complete paralysis below the lesion. At the time of writing, six months after the injury the patient is up and about with the aid of two sticks. The nearest X-ray apparatus is at Miri, a day's journey in good weather from Brunei; it was not necessary to send any cases there for examination during the year.

36. The admissions to the Government Hospitals are shown in Appendix VIII and Surgical Operations in Appendix IX.

37. The Brunei Malay is averse from entering hospital as an in-patient although the position in this respect seems to be improving slightly. There were 503 admissions in 1935 compared with 373 in 1934. Details of out-patients are shown in Appendix X. There is a slight diminution of numbers compared with the previous year for the reason given in paragraph 34.

38. Two rubber estates maintained their own dispensaries with qualified dressers, and other employers of labour (excepting the Oil Company, *see* Section VI below) made use of the Government hospitals at moderate charges.

VI.—KUALA BELAIT

39. The British Malayan Petroleum Company at Kuala Belait maintains a very well equipped hospital in charge of a Medical Officer.

By arrangement with the Company all the services of this hospital and the Company's medical staff are available to Government. The cost to Government in 1935 was \$5,503.04.

40. The anti-malarial and other health work in the Kuala Belait area is in the hands of the Assistant Resident who acts on the advice of the oil company's medical officer. There is a Sanitary Inspector holding the diploma of the Royal Sanitary Institute on the establishment of the Assistant Resident.

41. Anopheline mosquitoes identified in this area were as follows (in order of frequency).

A. separatus, *A. umbrosus*, *A. tessalatus*, *A. bæzai*, *A. brevipalpis*, *A. kochi*, *A. novumbrosus*, *A. hyrcanus*, *A. barbumbrosus*, *A. leucosphyrus* and *A. vagus*. Details are given in Appendix VII.

VII.—METEOROLOGY

42. Daily returns of rainfall are available from nine stations in the State and room temperature records are kept at the three Government hospitals. There is a wet season about the end and beginning of the year with a minor wet season about the middle of the year. 1935 was a considerably drier year than 1934.

Figures are given at Appendix XI.

W. G. EVANS,
Medical Officer, Brunei.

BRUNEI, *February*, 1936.

APPENDIX I

STAFF OF THE MEDICAL DEPARTMENT 1935

- (1) Medical Officer.
- (2) Dresser (Prize appointment).
- (3) Dresser Grade II.
- (4) Dressers Grade III four.
- (5) Probationer Dressers three.
- (6) Probationer Dispenser.
- (7) Clerk.
- (8) Health Nurse.
- (9) Probationer Nurse.
- (10) Midwife.
- (11) Female Attendants two.
- (12) Sanitary Inspector.
- (13) Market Inspector.
- (14) Mosquito Collector.
- (15) Peon.
- (16) Male Attendants five.
- (17) Cooks four.
- (18) Gardeners two.

APPENDIX II

		<i>Whole State</i>		<i>Medical Dept.</i>	
		\$	c.	\$	c.
Total Revenue	.. ..	813,531	53	1,627	16
Total Expenditure	.. ..	786,201	15	41,808	84

MEDICAL DEPARTMENT REVENUE 1935

Sale of medicines and Hospital Charges	..	1,627	16
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MEDICAL DEPARTMENT EXPENDITURE 1935

		\$	c.
Personal Emoluments		21,037	54
Transport (various)		1,511	48
Medicines and Instruments	.. ..	4,037	36
Hospital Diets	.. ..	2,429	35
Clothing and Laundry	.. ..	305	26
Miscellaneous	.. ..	203	09
Maintenance of Lunatics	.. ..	703	20
Conservancy	.. ..	2,145	57
Contribution to Belait Medical Services	.. ..	5,503	04
Health Work	.. ..	2,494	18
Hospital Furniture	.. ..	342	37
Electrical Equipment	.. ..	398	87
Purchase of Typewriter	.. ..	250	00
Purchase of Microscope	.. ..	447	53
Total	.. ..	41,808	84

APPENDIX III

TABLE 1

*Annual return of the Women and Child-Welfare Clinic
for the year 1935*

<i>Diseases</i>			<i>No. of cases</i>
Infectious disease:			
(a) Malaria (all forms)	..	..	21
(b) Chicken Pox	..	..	2
(c) Measles	..	..	1
(d) Yaws	..	..	19
(e) Dysentery:			
(1) Bacillary	..	..	1
(2) Amœbic	..	..	2
(f) Tuberculosis:			
(1) Pulmonary	..	..	6
(g) Pneumonia (all forms)	..	..	2
Venereal Disease:			
(1) Gonorrhœa (all forms)		..	6
(2) Other	..	..	1
Helminthic Infection:			
(1) Ascariasis	..	..	208
(2) Ankylostomiasis	..	..	16
Respiratory Diseases:	..	..	194
Circulatory System: (varicose vein)	..	..	1
Gastro-Intestinal disease	..	..	487
Genito-Urinary (non-venereal)	..	..	16
Diseases of Women:			
(1) Amenorrhœa	..	..	14
(2) Dysmenorrhœa	..	..	12
(3) Menorrhagia	..	..	2
(4) Parturition	..	..	7
(5) Abortion (all forms)		..	7
(6) Other	..	..	27
Violence (all forms)	..	..	112
Diseases of skin, etc. etc.	..	..	2,020
Total			3,186

TABLE 2

Record of Government Maternity Cases for 1935

Full term babies born alive with Normal Labour	..	521
Full term babies born dead	..	11
Premature babies born dead	..	3
Premature babies born alive	..	10
(a) Premature babies died shortly after birth		7
(b) Premature babies alive and doing well	..	3

TABLE 2—*Continued*

Twin babies born alive with Normal Labour ..	8 Pairs
(a) Twin babies alive and doing well ..	5 „
(b) Twin babies died ..	3 „
Abnormal-presentations of all forms ..	6
(1) Transverse ..	1
(2) Left-Sacro-Anterior ..	2
(3) Right-Sacro-Anterior ..	2
(4) Left-Sacro Posterior ..	1
Ante-Partum Hæmorrhage ..	3
Post-Partum Hæmorrhage ..	3
Malformations of babies (all forms) ..	6
Average number of Maternity cases per week ..	10
Average weight of babies in Brunei ..	7½ Lbs.
Ante-Natal cases ..	106
Diseases occurring during Ante-Natal period ..	13
(1) Beri-beri all forms ..	6
(2) Albuminuria ..	1
(3) Acute Gastro Enteritis ..	1
(4) Malaria B.T. ..	2
(5) Diabetes Mellitus ..	1
(6) Dysentery Amœbic ..	1
(7) Pulmonary Tuberculosis ..	1
Maternal Mortality from all causes ..	6
(1) Beri-beri ..	2
(2) Post-Partum Hæmorrhage ..	1
(3) Septicæmia with retained Placenta ..	1
(4) Acute Gastro Enteritis ..	1
(5) Diabetes Mellitus ..	1
Puerperal fever all forms ..	3
Number of Maternity cases confined in Hospital ..	7

TABLE 3

Table of Nationality of Maternity Cases

Brunei-Malays ..	511
Chinese ..	32
Kedayans ..	3
Dusuns ..	1
Tutongs ..	1
Javanese ..	1
Indians ..	1
Other Malays ..	3
Total ..	553

APPENDIX IV

Table showing the results of Spleen and Stool examination of School Children in 1935

PLACE	Number examined	Palpable Spleen	Spleen Rate %	Number of Stools examined	Ascaris	Infection Rate %	Ankylostoma	Infection Rate %
Brunei ...	359	7	1.9	306	228	74.5	3	0.98
Gadong ...	20	5	25.0	23	16	69.6	1	4.3
Kelanas ...	33	10	30.3	35	23	65.7	3	8.6
Sengkurong ...	24	8	33.3	24	22	91.7	2	8.3
Muara ...	55	14	25.5	52	37	71.2	0	0
Labu ...	21	2	9.5	21	13	61.9	0	0
Bangar ...	23	1	4.3	25	7	28.0	7	28.0
Tutong ...	59	4	6.8	61	38	62.3	0	0
Tanjong Maya ...	43	0	0	42	18	42.9	0	0
Lubok Pulau ...	15	0	0	15	2	13.3	0	0
Tumpuan Ugas ...	42	8	19.0	40	17	42.5	0	0
Belait ...	197	13	6.6	174	70	40.2	6	3.4
Labi ...	25	0	0	14	7	50.0	1	7.1
Barakas ...	20	13	65.0	22	17	77.3	3	13.6
Totals ...	936	85	9.08	854	515	60.3	26	3.04

APPENDIX V

VITAL STATISTICS

TABLE 1

Estimated population with birth and death rates

Year	Population	Births	Deaths	Birth-rate per mille	Death-rate per mille
1932	30,595	1,306	873	42.69	28.54
1933	32,869	1,411	867	42.93	26.38
1934	32,971	1,306	1,237	39.61	37.51
1935	33,732	1,475	802	43.70	23.78

APPENDIX V—Continued

TABLE 2
Births registered according to nationalities

Malays	Chinese	Dayaks	Dusuns	Eurasians	Indians	Javanese	Kedayans	Muruts	Tutongs	Others	Total
725	130	17	113	4	8	9	287	21	130	31	1,475

TABLE 3

Deaths from Principal Causes, year ending December, 1935

<i>Diseases</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
Malaria	20	18	38
Enteric fever	—	—	—
Dysentery	1	2	3
Influenza	—	—	—
Tuberculosis of respiratory system ..	20	12	32
Other forms of Tuberculosis ..	—	—	—
Leprosy	—	—	—
Syphilis	—	—	—
Ankylostomiasis	1	—	1
Fever unspecified	2	5	7
Cancer	2	—	2
Beri-beri	8	4	12
Diseases of the heart	5	1	6
Other diseases of Circulatory system	2	—	2
Bronchitis	—	3	3
Pneumonia (all forms)	8	6	14
Other diseases of Respiratory system	5	1	6
Diarrhoea and Enteritis	16	19	35
Other diseases of Digestive system ..	33	22	55
Convulsions	29	36	65
Diseases of Nervous system and Sense Organs	1	1	2
Non Venereal diseases of Gent. Urin. System	3	2	5
Diseases of Pregnancy, child-birth and Puerperal State	—	5	5
Premature birth and diseases of early Infancy	42	38	80
Old age and Senility	38	55	93
Violence (all forms)	6	5	11
Other Causes (including Unknown)	199	126	325
Total	441	361	802

APPENDIX V—Continued

TABLE 4

Deaths grouped according to age, sex and nationality

Deaths by Age groups					Sex	Europeans	Eurasians	Chinese	Malays	Indians	Others	Total
0	...	...	...	{	M.	...	...	1	17	...	12	30
					F.	...	...	3	8	...	9	20
4	Weeks	...	...	{	M.	...	...	6	24	1	21	52
					F.	...	...	7	31	...	21	59
3	Months	...	...	{	M.	...	...	3	36	...	13	52
					F.	...	...	2	27	...	7	36
6	"	...	...	{	M.	...	...	2	25	...	7	34
					F.	...	...	2	16	...	9	27
1	Year	...	...	{	M.	...	...	1	17	...	24	42
					F.	...	...	4	17	...	24	45
5	Years	...	...	{	M.	...	...	...	5	...	7	12
					F.	...	...	...	10	...	7	17
10	"	...	...	{	M.	...	...	1	7	...	5	13
					F.	...	...	...	4	...	1	5
15	"	...	...	{	M.	...	...	...	7	...	3	10
					F.	...	...	...	4	...	2	6
20	"	...	...	{	M.	...	...	...	8	...	4	12
					F.	...	...	2	7	...	8	17
25	"	...	...	{	M.	...	...	3	10	...	2	15
					F.	...	...	2	8	...	9	19
30	"	...	...	{	M.	...	...	3	8	2	10	23
					F.	...	...	2	3	...	7	12
35	"	...	...	{	M.	...	...	...	3	...	5	8
					F.	...	...	...	4	...	4	8
40	"	...	...	{	M.	...	...	4	7	...	14	25
					F.	...	...	...	4	...	9	13
45	"	...	...	{	M.	...	...	5	3	...	7	15
					F.	...	...	...	4	...	8	12
50	"	...	...	{	M.	...	...	3	5	1	9	18
					F.	...	...	...	9	...	8	17
55	"	and over	...	{	M.	...	...	3	34	...	30	67
					F.	...	...	1	38	...	22	61
Total ...					M.F.	...	...	60	410	4	328	802

TABLE 5

Infantile mortality by months

Jan.		Feb.		Mar.		April		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Total		Total Births	Rate per 1,000 births
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
15	11	17	12	13	13	10	10	10	12	12	10	9	8	8	11	14	9	18	8	24	12	29	15	179	131	1,475	210.17

APPENDIX V—*Continued*

TABLE 6

Deaths registered as regards certification

Certified by Medical Practitioners	..	114
Certified by Registering Officers after death		367
Uncertified	.. ..	321
Total	..	802

APPENDIX VI

Laboratory returns 1935

(1) Blood:

A. Films—

		<i>Brunei</i>	<i>Tutong</i>	<i>Temburong</i>
Malaria:				
(a) Benign Tertian	..	55	1	10
(b) Quartan	.. ..	17	—	2
(c) Sub-Tertian	.. ..	33	—	1
(d) Mixed-Infection	.. ..	5	1	—
(e) Negative	.. ..	512	27	74
Total	..	622	29	87

B. Blood Counts		5	—	—
-----------------	-------	---	---	---

(2) Stools:

(1) Ankylostoma	..	137	3	3
(2) Ascaris	.. ..	608	140	15
(3) Mixed A.L.O. & A.D.O.	..	20	1	10
(4) T. trichiura	..	194	9	2
(5) Strongyloides	..	128	—	—
(6) Trichomonas hominis	..	1	—	—
(7) Giardia intestinalis	..	4	—	—
(8) Hymenolepis nana	..	2	—	—
(9) Entamœba hystolitica	..	5	—	—
(10) Entamœba coli	..	3	—	—
(11) Bacteria & Pus cells	..	33	—	—
(12) Blood and Pus cells	..	52	2	2
(13) Negative	.. ..	198	180	17
Total	..	1,385	335	49

APPENDIX VI—Continued

			<i>Brunei</i>	<i>Tutong</i>	<i>Temburong</i>
(3) Sputum :					
(1) Tuberculosis Bacilli	..	21	2	1	
(2) Negative	..	93	—	—	
Total	..	114	2	1	
(4) Urine: (Microscopical)					
(1) Pus and Organisms	..	10	—	—	
(2) Casts (all forms)	..	240	—	—	
(3) Negative	..	465	21	12	
Total	..	715	21	12	
(5) Bacteriological Examination of Smears :					
(1) Gonococci	..	21	—	—	
(2) Lepra bacilli	..	1	—	—	
(3) Other Bacteria	..	11	—	—	
(4) Negative	..	17	—	—	
Total	..	50	—	—	

APPENDIX VII

TABLE 1

Record of Anopheline larvae, Brunei area

Months		A. kochi	A. barbi-rostris	A. hyrcanus	A. leucosphyrus	A. separatus	A. umbrosus	A. aitkeni	Total
April	...	205	187	21	12	38	...	3	466
May	...	182	98	28	42	24	...	...	374
June	...	130	93	...	33	4	...	...	260
July	...	418	157	57	...	...	...	...	632
August	...	333	151	...	8	8	...	...	500
September	...	49	28	...	...	...	...	...	77
October	...	58	14	...	11	...	...	...	83
November	...	119	94	5	...	...	8	...	226
December	...	69	7	...	...	...	...	...	76
Total	...	1,563	829	111	106	74	8	3	2,694

APPENDIX VII—Continued

TABLE 2

Breeding places of Anopheline mosquitoes in Brunei area

Months		Stagnant water	Wells	Seepages	Streams	Ponds	Swamps	Padi fields	Pools	Holes	Total
April	...	5	5	1	1	1	...	...	10	2	25
May	...	8	5	4	...	...	3	...	5	...	25
June	...	10	4	2	...	...	6	...	3	...	25
July	...	9	8	3	1	...	1	1	9	...	32
August	...	8	6	3	...	...	1	1	5	4	28
September	...	...	2	..	...	...	...	...	1	...	3
October	...	2	1	1	...	...	1	...	1	...	6
November	...	2	...	4	...	...	...	...	1	5	12
December	...	...	...	...	...	...	...	...	1	3	4
Total		44	31	18	2	1	12	2	36	14	160

TABLE 3

Record of Anopheline larvae in Kuala Belait area

Months		A. separatus	A. umbrosus	A. tessellatus	A. brevip- alpis	A. baezai	A. kochi	A. hyrcanus	A. novumb- rosus	A. barbomb- rosus	A. leucosp hyrus	A. vagus	Total
January	...	32	22	136	...	..	15	...	...	...	...	...	205
February	...	18	..	...	...	...	...	...	...	...	...	...	18
March	...	86	98	...	...	...	...	...	35	...	..	...	219
April	...	37	11	14	...	...	...	...	...	...	...	...	62
May	..	233	32	...	...	..	..	...	...	...	...	...	265
June	...	83	14	16	...	...	26	14	...	22	...	...	175
July	...	113	20	34	...	...	12	17	...	...	...	...	196
August	...	137	75	15	32	...	4	3	...	...	11	...	277
September	...	68	47	26	28	3	...	...	...	...	...	...	172
October	...	6	16	35	46	46	7	...	...	...	...	13	169
November	...	76	125	...	25	153	...	...	...	...	2	...	381
December	...	109	57	21	...	23	36	...	...	...	8	...	254
Total		998	517	297	131	225	100	34	35	22	21	13	2,393

APPENDIX VII—Continued

TABLE 4

Breeding places of Anopheline mosquitoes in Kuala Belait area

Months	Pools	Earth-drains	Swamps	Ponds	Streams	Wells	Lily ponds	Holes	Mangrove swamps	Total
January ...	3	1	1	...	...	...	...	...	...	5
February ...	...	1	...	...	...	...	...	...	...	1
March ...	3	1	1	1	...	...	...	...	...	6
April ...	2	...	1	...	...	...	...	...	...	3
May ...	4	...	...	...	2	...	...	...	...	6
June ...	17	9	116	...	...	23	...	...	...	165
July ...	13	44	97	...	...	13	39	...	...	206
August ...	48	12	224	...	...	...	3	...	...	287
September ...	23	20	129	...	...	...	...	...	...	172
October ...	2	10	14	...	...	...	3	...	...	29
November ...	...	...	19	...	...	1	...	...	...	20
December ...	...	1	14	...	...	...	...	3	2	20
Total ...	115	99	616	1	2	37	45	3	2	920

APPENDIX VIII

Annual return of Sick admitted to Government Hospitals Brunei, Tutong and Temburong

TABLE 1			BRUNEI		Remained	Admitted	Total	Discharged	Absconded	Transferred	Died	Remaining
Class	Specific Disease											
Infectious Disease	...	Malaria Fever B.T.	...	...	30	30	28	...	...	...	...	2
		Malaria Fever S.T.	...	...	25	25	25	...	...	...	...	...
		Malaria Fever Quartan	...	...	3	3	3	...	...	...	...	...
		Malaria Fever (Mixed)	...	...	3	3	2	...	...	...	...	1
		Malarial Cachexia	...	...	20	20	17	...	...	...	...	3
		Malaria Fever Unclass.	...	...	6	6	5	...	...	1	...	...
		Leprosy	...	...	1	...	1	...	...	...	...	1
		Influenza	...	...	28	28	28	...	...	...	...	...
		Yaws Primary	...	...	1	1	1	...	...	...	...	...
		Yaws Tertiary	...	...	1	1	1	...	...	...	...	...
		Typhoid Fever	...	...	1	1	1	...	...	...	...	...
General Disease	...	Dengue	...	...	1	1	1	...	...	...	...	...
		Beri Beri	...	...	1	25	26	22	...	...	1	3
		Exophthalmic Goitre	...	...	2	2	2	...	...	...	...	...
		Elephantiasis leg	...	...	1	1	1	...	...	...	...	...
		Adenitis	...	...	1	1	1	...	...	...	...	...
		Avitaminosis	...	...	2	2	1	...	...	1	...	...
		Marasmus	...	...	2	2	1	...	...	...	...	1
		Anæmia Secondary	...	...	3	3	3	...	...	...	...	...
		Lymphadenoma	...	...	1	1	1	...	...	...	...	...
		Alcoholic Poisoning	...	...	1	1	1	...	...	...	...	...
		Lymphangitis	...	...	1	1	1	...	...	...	...	...
	Diabetes Mellitus	...	...	1	1	...	...	...	1	...	...	
	Carried forward	...	2	159	158	146	...	...	4	11		

APPENDIX VIII—Continued

TABLE 1	BRUNEI		Remained	Admitted	Total	Discharged	Absconded	Transferred	Died	Remaining
Class	Specific Disease									
	<i>Brought forward</i> ...		2	159	158	146	...	...	4	11
Nervous System ...	Opium Habit ...	...	...	31	31	28	...	...	...	3
	Insanity ...	...	...	2	2	2	...	...	...	...
	Senile Dementia ...	...	...	1	1	...	...	...	...	1
	Epilepsy ...	...	...	1	1	1	...	...	...	...
	Melancholia ...	...	...	1	1	1	...	...	...	...
	Delusional Insanity ...	...	...	1	1	...	...	...	...	1
	Amentia ...	...	...	1	1	...	...	...	...	1
Circulatory System ...	Valvular Disease of Heart		1	...	1	1	...	...	...	...
Respiratory System	Bronchitis ...	...	...	5	5	5	...	...	...	...
	Bronchial Catarrh ...	...	...	3	3	3	...	...	...	...
	Asthma ...	...	...	9	9	9	...	...	...	...
	Broncho Pneumonia ...	...	...	1	1	...	...	...	1	...
	Lobar Pneumonia ...	...	...	1	1	1	...	...	...	...
	Pneumonia ...	...	...	1	1	1	...	...	...	...
	Pulmonary Tuberculosis ...	...	...	13	13	9	...	...	3	1
	Pleurisy ...	...	...	1	1	1	...	...	...	...
Helminthic Infection	Ascariasis ...	...	...	21	21	20	1	...	...	...
	Ankylostomiasis ...	...	...	30	30	29	...	...	1	...
Digestive System ...	Hæmorrhoids ...	...	1	1	2	2	...	...	...	...
	Intestinal Obstruction ...	...	...	1	1	...	...	...	1	...
	Liver abscess ...	...	...	1	1	1	...	...	...	...
	Carcinoma of stomach ...	...	...	1	1	...	...	...	1	...
	Constipation ...	...	...	1	1	1	...	...	...	...
	Gastric Ulcer ...	...	...	1	1	...	...	...	1	...
	Cholecystitis ...	...	...	1	1	1	...	...	...	...
	Duodenal ulcer ...	...	...	1	1	...	...	...	1	...
	Enteritis ...	...	...	1	1	1	...	...	...	...
	Carcinoma Oesophagus ...	...	...	1	1	...	...	...	1	...
	Carcinoma abdominal ...	...	...	2	2	1	...	...	...	1
	Gastro enteritis ...	...	...	1	1	1	...	...	...	...
	Appendicitis ...	...	...	1	1	1	...	...	...	...
	Amœbic Dysentery ...	...	...	1	1	1	...	...	...	...
	Bacillary Dysentery ...	...	...	3	3	3	...	...	...	...
	Abdominal adhesions ...	...	...	1	1	1	...	...	...	...
	Oesophageal obstruction ...	...	...	1	1	1	...	...	...	...
Gen: Urin: System ...	Cystitis ...	...	...	2	2	2	...	...	...	...
	Nephritis ...	...	...	4	4	4	...	...	...	...
	Pyelitis ...	...	...	2	2	2	...	...	...	...
	Hydrocele ...	...	...	1	1	1	...	...	...	...
	Paraphimosis ...	...	...	1	1	1	...	...	...	...
Venereal Disease ...	Gonorrhœa ...	...	1	4	5	5	...	...	...	...
	Gonorrheal Conjunctivitis ...	...	...	1	1	1	...	...	...	...
	Gonorrheal Synovitis ...	...	...	1	1	1	...	...	...	...
	Gonorrheal arthritis ...	...	...	1	1	1	...	...	...	...
	Syphilis Secondary ...	...	...	2	2	2	...	...	...	...
	<i>Carried forward</i> ...		5	321	326	291	1	...	14	19

APPENDIX VIII—Continued

TABLE 1	BRUNEI		Remained	Admitted	Total	Discharged	Absconded	Transferred	Died	Remaining
Class	Specific Disease									
	<i>Brought forward</i>	...	5	321	326	291	1	...	14	19
Bones and Joints	Tuberculosis joints	...	1	2	3	3	...	...	...	..
	Ankylosis of Tarsus	...	...	1	1	1	...	...	...	...
	Fracture Simple	...	...	7	7	6	...	...	...	1
	Fracture Spine	...	...	1	1	..	...	...	...	1
	Sacroiliac arthritis	...	...	2	2	1	...	...	...	1
	Dislocation elbow	...	...	1	1	1	...	...	...	...
	Periostitis	...	...	3	3	3	...	...	...	...
	Osteomyelitis	...	...	1	1	1	...	...	...	...
	Polyarthrits	...	...	1	1	1	...	...	...	...
Violence (all forms)	Wounds	...	..	20	20	20	...	...	...	...
	Burn	...	...	4	4	4	...	...	...	...
	Shark bite	...	...	2	2	2	...	...	...	...
	Sprain	...	...	3	3	3	...	...	...	...
	Foreign body in foot	...	...	1	1	1	...	...	...	...
	Injury leg	...	...	1	1	...	...	...	1	...
	Amputation finger	...	...	1	1	1	...	...	...	...
	Traumatic Neuritis	...	...	1	1	1	...	...	...	...
	Circumcision	...	...	1	1	1	...	...	...	...
Ear, Eye, Nose and Throat	Corneal ulcer	...	...	4	4	4	...	...	...	...
	Cataract	...	...	3	3	3	...	...	...	...
	Conjunctivitis	...	...	2	2	2	...	...	...	..
	Otitis Media (bilateral)	...	...	2	2	2	...	...	...	...
	Rhinitis	...	...	1	1	1	...	...	...	...
	Tonsillitis	...	...	2	2	2	...	...	...	...
Skin & Cell: Tissue	Abscess	...	1	14	15	15	...	...	...	...
	Boil	...	...	2	2	2	..	...	...	...
	Ulcer	...	...	6	6	6	...	...	...	...
	Eczema	...	...	2	2	2	...	...	...	...
	Tinea Imbricata	...	...	12	12	11	...	...	...	1
	Pellagra	...	...	1	1	1	...	...	...	...
	Thyroid Cyst	...	...	1	1	1	...	...	...	...
	Septic hand	...	...	1	1	1	...	...	...	...
	Axillary abscess	...	...	2	2	2	...	...	...	...
	Dermatitis	...	...	4	4	4	...	...	...	...
Disease of Women	Parturition	...	...	5	5	4	...	...	...	1
	Retained Placenta	...	...	1	1	...	...	...	1	...
	Retroversion Uterus	...	...	1	1	1	...	...	...	...
Undefined Disease	Debility	...	...	1	1	1	...	...	...	...
	Senility	...	1	...	1	...	...	...	1	...
	Observation	...	...	7	7	6	...	...	...	1
	Malingering	...	...	1	1	1	...	..	...	...
	Fyrexia U.O.	...	...	1	1	...	...	...	...	1
	N.A.D.	...	...	1	1	1	...	...	...	...
	Total	...	8	451	459	415	1	...	17	26

APPENDIX VIII—Continued

TABLE 2		TUTONG								
Class	Specific Disease		Remained	Admitted	Total	Discharged	Absconded	Transferred	Died	Remaining
Infectious Disease ...	Malaria Fever S.T. ...	...	...	2	2	...	...	2	...	...
	Malaria Fever B.T. ...	...	...	1	1	...	...	1	...	...
	Malaria Fever (Mixed) ...	...	...	1	1	1	...	...	...	...
	Chicken Pox ...	...	...	1	1	1	...	...	...	...
	Influenza ...	...	...	1	1	1	...	...	...	...
General Disease ...	Beri-Beri ...	...	...	2	2	1	...	...	1	...
Nervous System ...	Epilepsy ...	...	...	1	1	1	...	...	...	...
Digestive System ...	Bacillary Dysentery ...	...	..	1	1	1	...	...	...	...
Ear, Eye, Nose and Throat ...	Conjunctivitis ...	...	..	1	1	1	...	...	...	...
Skin and Cell. Tissue	Tinea Imbricata ...	...	...	7	7	7	...	...	...	...
	Abscess ...	...	...	1	1	1	...	...	...	...
	Eczema ...	...	...	1	1	1	...	...	...	...
Violence (all forms)	Sprain ...	...	...	1	1	1	...	...	...	...
	Wound ...	...	...	4	4	4	...	...	..	...
Total ...		...	..	25	25	21	...	3	1	...
TABLE 3		TEMBURONG								
Infectious Disease ...	Malaria Fever B.T. ...	...	...	1	1	1	...	..	...	..
	Malaria Fever S.T. ...	...	...	1	1	1	...	...	...	...
	Malaria Fever Quartan ...	...	...	1	1	1	...	...	...	...
	Influenza ...	...	...	2	2	2	..	...	...	...
	Yaws ...	...	...	2	2	2	...	...	...	...
General Disease ...	Beri-Beri ...	...	...	7	7	6	...	...	1	...
Respiratory System	Lobar Pneumonia ...	...	..	1	1	1	...	...	...	...
	Pulmonary Tuberculosis ...	...	...	2	2	1	...	1	...	...
Ear, Eye, Nose and Throat ...	Tonsillitis ...	...	...	1	1	1	...	...	...	...
Digestive System ...	Ankylostomiasis ...	..	...	1	1	1	...	...	...	...
	Bacillary Dysentery ...	...	...	1	1	1	...	...	...	...
Skin and Cell Tissue	Tinea Imbricata ...	...	...	3	3	3	..	...	...	...
	Ulcer ...	...	...	1	1	1	...	...	...	...
	Carbuncle ...	...	...	1	1	1	..	...	...	...
Genito. Urin. System	Ascites U.O. ...	...	...	1	1	...	...	1	...	...
Undefined Disease ...	Observation ...	...	...	1	1	1	...	...	...	...
Total ...		...	...	27	27	24	...	2	1	...

APPENDIX IX

Return of operations performed during 1935

			<i>Brunei</i>	<i>Tutong</i>
<i>A.—General:</i>				
Suture of wounds	..	..	48	3
Removal of Cyst, etc.	..	..	10	—
Removal of Fibroma	..	..	2	—
Removal of Papilloma	..	..	2	—
Removal of Foreign bodies	..	..	9	—
For Hydrocele	..	..	2	—
Circumcision	..	..	1	—
Incision of suppuration	..	..	35	1
Empyema	..	..	1	—
Repairing ear lobes	..	..	4	—
For Ascites	..	..	21	—
Liver abscess	..	..	1	—
Amputation of finger	..	..	1	—
Manipulation of fracture	..	..	4	—
Dislocation elbow joint	..	..	1	—
Paraphimosis	..	..	1	—
Cystoscopy	..	..	2	—
Sigmoidoscopy	..	..	2	—
<i>B.—Special:</i>				
(1) Ear, Nose and Throat:				
Incision of mastoid abscess			2	—
(2) Gynæcological:				
Manual Removal of Placenta			1	—
(3) Dental:				
Extraction	..	..	213	9
Pyorrhœal abscess	..	..	6	—
			369	13

APPENDIX X

Annual return of Outpatients, Brunei Government Hospitals, 1935

<i>Disease</i>		<i>Brunei</i>	<i>Tutong</i>	<i>Temburong</i>	<i>Total</i>
Infectious Disease:					
(a) Malaria (all forms)	..	456	104	101	661
(b) Yaws	..	41	46	45	132
(c) Leprosy	..	1	—	—	1
(d) Dengue	..	1	—	—	1
(e) Chicken Pox	..	—	1	—	1
(f) Dysentery	..				
(1) Bacillary	..	4	3	11	18
(2) Amœbic	..	—	—	1	1
(g) Pneumonia (all forms)	..	8	—	1	9
(h) Tuberculosis	..				
(1) Pulmonary	..	40	9	2	51
(2) Other	..	17	—	—	17
Venereal Disease:					
(a) Gonorrhœa (all forms)	..	22	—	4	26
(b) Syphilis (all forms)	..	3	—	—	3
Helminthic Infection:					
(a) Ascariasis	..	829	377	88	1,294
(b) Ankylostomiasis	..	21	4	—	25
Respiratory Disease:	..	685	290	233	1,208
Circulatory Disease:					
(1) Valvular disease of heart		4	—	—	4
Gastro-Intestinal disease:					
(1) Duodenal ulcer	..	4	—	—	4
(2) Other	..	909	397	177	1,483
Genito-Urinary (Non-venereal)		38	2	—	40
Diseases of Women:					
(1) Amenorrhœa	..	1	—	—	1
(2) Dysmenorrhœa	..	1	—	1	2
(3) Parturition	..	13	8	2	23
(4) Abortion	..	—	1	1	2
(5) Other	..	1	—	—	1
Violence (all forms)	..	1,025	219	111	1,355
Diseases of Skin, etc., etc.	..	2,753	1,068	738	4,559
Total	..	6,877	2,529	1,516	10,922

APPENDIX XI
METEOROLOGY 1935

TABLE 1

Mean room temperature at Brunei, Tutong and Temburong Hospitals

Month			BRUNEI			TUTONG			TEMBURONG		
			Maximum	Minimum	Range	Maximum	Minimum	Range	Maximum	Minimum	Range
January	...	...	83.64	75.55	8.09	83.29	79.22	4.07	85.45	74.03	11.42
February	...	...	84.86	75.11	9.75	83.96	74.16	9.80	85.71	74.35	11.36
March	...	...	85.52	76.19	9.33	85.45	74.96	10.49	86.09	74.77	11.32
April	..	...	87.50	77.37	10.13	87.29	75.66	11.63	87.73	75.53	12.20
May	...	...	87.74	77.39	10.35	86.19	75.96	10.23	89.25	75.22	14.03
June	...	...	86.03	76.73	9.30	86.36	74.83	11.53	86.53	74.86	11.67
July	...	...	86.94	76.68	10.26	86.74	75.12	11.62	86.87	74.67	12.20
August	...	...	86.94	76.23	10.71	86.83	75.06	11.77	87.16	73.77	13.39
September	...	...	86.70	76.20	10.50	87.18	74.53	12.65	88.00	74.30	13.70
October	...	...	86.23	76.94	9.29	85.79	74.93	10.86	87.09	75.09	12.00
November	...	...	85.20	75.03	10.17	84.96	74.66	10.30	87.40	74.26	13.14
December	...	...	84.80	75.87	8.93	85.19	74.12	11.07	87.41	73.35	14.06
Mean	...	...	86.01	76.27	9.73	85.77	75.27	10.50	87.05	74.52	12.53

TABLE 2

Monthly rain-fall at nine Stations

Month			BRUNEI DISTRICT				TEMBURONG DISTRICT			BELAIT DISTRICT	
			Govt. Hos. Brunei town	Subok	Gadong	Kumbang Pasang	Labu	Biang	Batu Apoi	Belait B. M. P. Company	Belait Company's Hospital
January	..	...	12.68	10.90	9.90	13.71	13.02	13.65	7.30	7.79	7.65
February	...	...	4.76	6.16	5.81	5.78	6.79	8.17	5.45	8.19	8.16
March	...	...	7.88	7.42	6.83	6.77	22.25	19.68	8.88	10.13	10.16
April	...	...	4.68	4.68	3.89	3.51	8.38	9.75	12.82	7.12	7.01
May	.	...	4.96	3.60	4.77	8.86	8.10	10.65	8.58	6.12	6.18
June	..	...	20.39	16.41	23.74	21.23	21.55	20.53	9.15	8.97	9.00
July	...	...	5.78	5.43	7.01	6.44	22.43	11.35	7.42	3.27	3.28
August	.	...	10.14	12.82	14.85	11.26	23.95	20.92	11.94	9.28	9.11
September	...	...	6.94	3.50	4.05	7.81	8.43	8.18	4.35	6.10	6.41
October	.	...	16.37	16.26	17.32	18.60	38.40	23.22	31.92	18.57	18.77
November	.	...	17.58	19.21	16.73	21.90	24.60	23.48	23.47	15.39	15.81
December	...	...	13.23	9.69	9.80	10.42	20.30	14.03	17.48	6.54	6.70
Total	..	...	125.39	116.08	124.70	136.29	218.20	183.61	148.76	107.47	108.24
1934	...	...	151.72	162.31	175.86	192.17	248.93	235.20	148.33	133.34	134.40

